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Cryptoniscidae *s.s.* (Isopoda: Epicaridea): Nomenclatural History and Recommendations

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Abstract The nomenclatural history of the parasitic isopod family Cryptoniscidae Kossmann, 1880 *sensu stricto* is reviewed, and irregularities are exposed and corrected. *Eumetor* Kossmann, 1872 and its type species *E. liriopides* Kossmann, 1872 are available but unrecognizable except by host. *Cryptoniscus curvatus* Fraisse, 1877 is designated here as the type species of *Danalia* Giard, 1887. *Danalia lobiancoi* Giard & Bonnier, 1890 is a *nomen nudum* since it was merely mentioned in a list with its host. At least five of the 12-13 available nominal species currently assigned to *Danalia* are nearly unrecognizable except by host. Neither *Zeuxokoma* Zimmer, 1927 nor *Zeuxokoma* Neave, 1940 qualifies as an available replacement name for the preoccupied *Zeuxo* Kossmann, 1872 because of lack of reference to the earlier name and lack of a type species designation, respectively. *Zeuxokoma nom. nov.* is proposed here as a replacement name for *Zeuxo* Kossmann, and *Zeuxo alphei* Kossmann, 1872 is designated here as the type species. The nominal subfamily Fabinae Danforth, 1970 (1963?) is unavailable because neither work involved was published in the sense of the International Code of Zoological Nomenclature. The nominal family Danaliidae Altes, 1982 includes *Cryptoniscus* Müller, 1864, and is thus a junior synonym of Cryptoniscidae Kossmann, 1880.

Key words: Isopoda, Cryptoniscidae, nomenclature, type species designation, replacement name

One group of epicaridean isopods are the Cryptonscina *sensu* Bonnier, 1900. According to different workers they constitute a single family, the Cryptoniscidae Kossmann, 1880 *sensu lato*, or a number of families including the Cryptoniscidae *sensu stricto*. This latter includes hyperparasites of rhizocephalan cirripeds, direct parasites of decapod malacostracans, and a hyperparasite of another epicaridean, and it has usually but invalidly been called Liriopsidae Bonnier, 1900. Grygier & Bowman (1990, 1991) discuss the family-level nomenclature. Nine nominal genera are treated here: *Liriopsis* Schultze in Müller, 1859 (replacement name for preoccupied *Liriope* Rathke, 1843); *Cryptoniscus* Müller,1864; *Eumetor* Kossmann, 1872; *Zeuxo* Kossmann, 1872 (preoccupied; a replacement name is proposed here); *Danalia* Giard, 1887; *Enthylacus* Pérez, 1920; *Perezina* Nierstrasz & Brender à Brandis, 1930a (replacement name for preoccupied *Perezia* Nierstrasz & Brender à Brandis, 1929); *Faba* Nierstrasz & Brender à Brandis, 1930b; and *Heptalobus* Nierstrasz & Brender à Brandis, 1930b.

Revisions of the Liriopsidae (*i.e.*, Cryptoniscidae *s.s.*) were published by Bocquet-Védrine (1974) and Altes (1982), but several nomenclatural irregularities have been passed down from earlier literature. In order to rectify this situation, this paper recounts the history of nomenclatural acts involving the Cryptoniscidae *s.s.*

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and gives recommendations for usage, based on the International Code of Zoological Nomenclature (Code; International Commission on Zoological Nomenclature, 1985). This is not a taxonomic history; no taxonomic judgements are made and full synonymies are not presented.

Genus-Level History and Nomenclatural Status of Species

1. *Liriopsis* Schultze in Müller, 1859.

This genus now contains two nominal species.

Grygier & Bowman (1990) discussed in detail the replacement of *Liriope* Rathke, 1843 by *Liriopsis* Schultze in Müller and noted that the type species is *Liriope pygmaea* Rathke, 1843, by monotypy.

Bonnier (1990) transferred *Cryptoniscus monophthalmus* Fraisse, 1877 to *Liriopsis* by synonymizing the two genera; this species has since remained in *Liriopsis*.

2. *Cryptoniscus* Müller, 1864.

This genus now contains two nominal species.

Grygier & Bowman (1990) discussed the true date of publication of this genus, whereby Müller's (1871) reproposal of it as a replacement name for *Liriope* Rathke (now known as *Liriopsis* Schultze in Müller) was shown to be invalid, and they concluded that the type species is *C. planarioides* Müller, 1864, by monotypy.

Giard (1874) described a new species, *C. larvaeformis*, based on an unspecified number of female and male syntypes. He gave a brief, unillustrated description of the female and a comparison to *C. planarioides*, so this species is available (Code, Art. 12a).

Fraisse (1877, 1878a, 1878b) followed Müller (1871) and referred all the cryptoniscid isopods then known to *Cryptoniscus* rather than using the oldest available name, *Liriopsis*. Fraisse (1877) described three species as new, *C. paguri*, *C. curvatus*, and *C. monophthalmus*, all of which were described and illustrated *in extenso* and are thus available (Code, Arts. 12a, 12b(7)). *Cryptoniscus paguri* was based on a large number of female and larval syntypes representing many developmental stages; *C. curvatus* was based on about 20 female syntypes at various stages of metamorphosis and on numerous male and female larval syntypes; *C. monophthalmus* was based on six female syntypes, including one metamorphosing larva, and some male larval syntypes. Fraisse (1877) was a published Inaugural-Dissertation that is identical to a journal article (Fraisse, 1878a) except for the title page, first text page (no headings before the text in the dissertation), and pagination. In the dissertation the abbreviated journal title and volume and found across the tops of the plates and in small print at the bottom of p. 49, which is the first page of the fourth sheet, but not on the first pages of the other three sheets, nor on the title page. Both the dissertation and the journal have printing dates of 1877; the dissertation gives no other date, so its publication date must be taken as December 31, 1877 (Code, Art. 21c(ii)), but the inner title page of the bound journal volume gives the date of publication of the number in which Fraisse (1878a) appeared as January 2, 1878.

Giard (1887) included *C. larvaeformis* Giard and *C. curvatus* Fraisse in his new genus *Danalia* (see below), where they have remained. As discussed in detail by Grygier & Bowman (1990), Bonnier (1900) synonymized *Cryptoniscus* with *Liriopsis*. Caullery (1908) raised *Cryptoniscus* again from synonymy, but only for the two species *C. planarioides* Müller and *C. paguri* Fraisse. No other species have been added to *Cryptoniscus* since then, and *C. monophthalmus* Fraisse has remained in *Liriopsis*.

3. *Eumetor* Kossmann, 1872.

This genus now contains one nominal species.

Kossmann (1874) is a republication of Kossmann (1872); citations of this work as having appeared in 1873 (*e.g.*, Neave, 1940) are mistaken.

Eumetor liriopides Kossmann, 1872, the type species by monotypy of Kossmann's (1872) new genus *Eumetor*, was based on several syntypes. Kossmann (1872) wrote that he had found three specimens in the host, but it is unclear whether he thereby meant three females or a total of three females and males (a male was illustrated); Fraisse (1878b) thought the latter. Some later authors (e.g., Pérez, 1920; Altes, 1982) have considered this genus and species to be *nomina nuda* because the animal is unrecognizable; however, Kossmann (1872) distinguished both sexes of *E. liriopides* from *Liriope* (*i.e.*, *Liriopsis*) by morphological features and illustrated the male, so the name is available under the Code (Arts. 12a, 12b(7)). Von Martens (1875) suggested an unjustified emendation of the specific name, "*liriopi*[*oi*]*des*".

4. *Zeuxo* Kossmann, 1872.

This genus, being an unreplaced junior homonym, now validly contains no nominal species.

Kossmann's (1872) second new genus, *Zeuxo*, was proposed for his two new species, but neither was designated the type species by him or any subsequent author. *Zeuxo porcellanae* Kossmann, 1872, described first, was based on two female syntypes that differed somewhat from each other in form, and *Z. alphei* Kossmann, 1872 was based only on the female holotype. Both specific names are available because brief descriptions accompanied by illustrations were offered (Code, Arts. 12a, 12b(7)).

Fraisse (1878b) transferred *Z. porcellanae* to *Cryptoniscus*, leaving only *Z. alphei* in *Zeuxo*. However, he did not explicitly designate a type species for *Zeuxo*, and there is no valid procedure of type designation merely by elimination (Code, Art. 69b).

Kossmann (1880) described a third species of *Zeuxo*, *Z. longicollis*, based on three female syntypes. The description was very brief, but characters distinguishing this species from two others were offered, as well as illustrations; therefore, *Z. longicollis* is available (Code, Arts. 12a, 12b(7)). Kossmann (1880) also transferred *Cryptoniscus larvaeformis* Giard and *C. curvatus* Fraisse to *Zeuxo*. All three just-mentioned species were later included by Giard (1887) in his new genus *Danalia* (see below), where they have remained.

Kossmann (1884) later acknowledged that *Zeuxo* Kossmann, 1872 was preoccupied by the tanaidacean *Zeuxo* Templeton, 1840, but did not suggest a replacement name

and still did not designate a type species for his genus *Zeuxo*. Giard (1887) and Bonnier (1900) considered it likely that the two original species of *Zeuxo* should be assigned to two different genera, but took no formal action.

Caullery (1908) knew that *Zeuxo* Kossmann, 1872 was preoccupied and on that basis correctly disregarded its priority over *Danalia* Giard, 1887 in synonymizing the two genera, but he also did not suggest a replacement name. "*Danalia* (*Zeuxo*) *porcellanae*" and "*Danalia* (*Zeuxo*) *alphei*" were include in Wimpenny's (1927) list of the species of Liriopsidae (*i.e.*, Cryptoniscidae *s.s.*). As with a similar treatment by Altes (1982), this should not be interpreted as a designation of *Zeuxo* as a subgenus of *Danalia*, but a simple statement of synonymy following Caullery (1908). Altes (1982) assigned one of Kossmann's (1872) original species of *Zeuxo* to *Danalia* (as "*D.* (*Zeuxo*) *porcellanae*") and the other provisionally to *Faba* Nierstrasz & Brender à Brandis (see below; misspelled as "*F. alphaei*").

In a list of the genera of the Cryptoniscidae *s.l.*, Zimmer (1927) included "*Zeuxokoma* Kossmann" without citing a date, but Kossmann seems never to have proposed this name himself. Zimmer (1927) made no reference to the earlier name *Zeuxo* Kossmann; while the Code does not explicitly require this, logically it seems impossible to designate a replacement name without mentioning the name that is being replaced. *Zeuxokoma* Zimmer cannot be regarded as an emendation, for in that case explicit reference to the prior name is required (Code, Art. 33b(i)); it is evidently just an unavailable, incorrect subsequent spelling of *Zeuxo* (Code, Art. 33c).

Neave's (1940) entry for *Zeuxo* Kossmann directs one to "see *Zeuxokoma* Zimmer 1927", and the latter entry reads, "*Zeuxokoma* (n.n. pro *Zeuxo* Kossmann 1873) Kossmann (*teste* Zimmer 1927...)". Since Zimmer (1927) did not make a valid replacement and Neave (1940) read much more into Zimmer's list than was actually there, the correct attribution of the replacement name would be *Zeuxokoma* Neave, 1940. However, every generic name proposed after 1930, even as a replacement name, must have a type species in order to be available (Code, Art. 13b). *Zeuxo* Kossmann and *Zeuxokoma* Neave had no designated type species, so the latter was unavailable.

5. *Danalia* Giard, 1887.

This genus now contains 13-14 nominal species, depending on whether *Zeuxo alphei* Kossmann, 1872 is assigned to it.

Giard (1887) proposed this genus for five nominal species of hyperparasites of *Sacculina* without designating a type species. These included the three previously described species, *D. larvaeformis* (Giard, 1874; originally in *Cryptoniscus*), *D. curvata* (Fraisse, 1877; originally in *Cryptoniscus*), and *D. longicollis* (Kossmann, 1880; originally in *Zeuxo*), and Giard's two new species. *Danalia Dohrnii* Giard, 1887 (corrected spelling: *D. dohrnii*) was based on three young female syntypes that had been identified preliminarily as *Cryptoniscus curvatus* in an Appendix by Fraisse (1877, 1878a) but which were from a different host species than Fraisse's other specimens of that species. Giard (1887) distinguished *D. dohrnii* only by the host but he also referred to Fraisse's (1877, 1878a) illustration of the three specimens *in situ* on their host, which constitutes an indication (Code, Art. 12c), so the specific name is available. *Danalia pellucida*

Giard, 1887 was distinguished from the original two species of *Zeuxo*, and from the species then assigned to *Cryptoniscus* that were known to parasitize *Peltogaster*, on the basis of the morphology of the attachment organ; therefore, it is available (Code, Art. 12a), although it may no longer be recognizable solely on that basis. No subsequent authors have designated a type species for *Danalia*.

Danalia Lo Biancoi (corrected spelling: *D. lobiancoi*) was first proposed by Giard & Bonnier (1890), but it is concluded to be a *nomen nudum* because the only information provided about it concerned the host and locality, neither of which constitutes an indication (Code, Art. 12c). Giard & Bonnier (1890) also cited an earlier worker in connection with this species, Salvatore Lo Bianco, but not the specific work by Lo Bianco nor its date; such ambiguity cannot qualify as an indication by bibliographic reference (Code, Arts. 12b(1), 12b(7)). While *D. lobiancoi* has subsequently appeared in several lists (*e.g.*, Bonnier, 1900; Wimpenny, 1927; Altes, 1982), no new descriptive information about it has appeared and it remains a *nomen nudum*.

Smith (1906) proposed a new species, *D. ypsilon*, with no description but only a poor illustration of a female *in situ* on its host. The drawing nonetheless constitutes an indication (Code, Art. 12b(7)), so his scientific name was made available already in 1906, not by Wimpenny's (1927) redescription of this species.

Caullery (1908) transferred Kossmann's (1872) two original species of *Zeuxo* (*Z. porcellanae* and *Z. alphei*) to *Danalia* and also proposed a new species, *D. gregaria*, which was not illustrated and was based on 11 female and eight male syntypes. Aside from a unique host, two provisional distinctions from *D. curvatus* (Fraisse) were mentioned: occurrence on a single host crab (p. 593: "... cet état grégaire peut tres bien être un charactère spécifique.") and male behavior (p. 593: "Le fait que des mâles s'insinuent sous la cuticule ... est peut-être aussi l'indice d'une différence spécifique."). While *D. gregaria* is very nearly a *nomen nudum*, I am interpreting these provisional distinctions as a diagnosis which makes the specific name available (Code, Arts. 12a, 15).

Several other species of *Danalia* were subsequently proposed; all included descriptions and illustrations and so are available (Code, Art. 12a). Nierstrasz & Brender à Brandis (1923) proposed a new species, *D. caulleryi*, which was diagnosed only by its host; a short description of the only specimen, the damaged female holotype, was presented together with a drawing and photographs. Nierstrasz & Brender à Brandis (1925) described another new species, *D. fraissei*, based on two syntypes, a female and a male, and both sexes were illustrated. Harant (1925) described a new species, *D. inopinata*, based on a female, the holotype, with a full description and figure. Fize (1955) proposed a new species, *D. hapalocarcini*, in a preliminary illustrated report based on an unspecified number of female, male, and larval syntypes; she included a list of purportedly diagnostic features in her discussion, so her scientific name was made available already in 1955 (Code, Art. 12a), not by Fize's (1956) more detailed redescription of the species.

List of nominal species of *Danalia* Giard, 1887, and their nomenclatural and taxonomic status.

D. porcellanae (Kossmann, 1872) — available, poorly known.

D. alphei (Kossmann, 1872) — available, poorly known, assignment to *Danalia* disputed, designated as the type species of *Zeuxokoma nom. nov.* herein.
D. larvaeformis (Giard, 1874) — available, poorly known.
D. curvata (Fraisse, 1877) — available, well known, designated as the type species of *Danalia* herein.
D. longicollis (Kossmann, 1880) — available, poorly known.
D. dohrnii Giard, 1887 — available, defined by host.
D. pellucida Giard, 1887 — available, defined mostly by host.
D. lobiancoi Giard & Bonnier, 1890 — *nomen nudum.*
D. ypsilon Smith, 1906 — available, well known.
D. gregaria Caullery, 1908 — available, defined mostly by host.
D. caulleryi Nierstrasz & Brender à Brandis, 1923 — available, poorly known.
D. fraissei Nierstrasz & Brender à Brandis, 1925 — available, adequately described.
D. inopinata Harant, 1925 — available, adequately described.
D. hapalocarcini Fize, 1955 — available, adequately described.

6. *Enthylacus* Pérez, 1920

This genus now contains one nominal species.

Pérez (1920) described the new genus *Enthylacus*, with the type species by monotypy *E. trivinctus* Pérez, 1920, base on numerous syntypes of both sexes, which were described and illustrated. Therefore, both the generic and specific names are available (Code, Arts. 12a, 12b(7)). Pérez considered *Enthylacus* to belong to the Liriopsidae *sensu* Bonnier (1900) (*i.e.*, Cryptoniscidae *s.s.*) and suggested that *Enthylacus* might by synonymous with *Eumetor* Kossmann, 1872, which he regarded as a *nomen nudum.* Altes (1982) also considered *Eumetor* a *nomen nudum* and treated it provisionally as a synonym of *Enthylacus.* As shown above, *Eumetor* is actually an available name and would have priority over *Enthylacus* in case of synonymy.

7. *Perezina* Nierstrasz & Brender à Brandis, 1930.

This genus now contains one nominal species.

Nierstrasz & Brender à Brandis (1929) described and illustrated the new genus *Perezia*, with the type species by monotypy *P. gregaria* Nierstrasz & Brender à Brandis, 1929, based on 15 female syntypes. Because a description with illustrations was presented, their generic and specific names were available already in 1929 (Code, Arts. 12a, 12b(7)), but to avoid homonymy with the microsporidian *Perezia* Léger & Duboscq, 1909, Nierstrasz & Brender à Brandis (1930a) replaced their generic name by *Perezina.* They included this genus in the Liriopsidae *sensu* Bonnier (1900) (*i.e.*, Cryptoniscidae *s.s.*), close to *Enthylacus* Pérez.

8. *Faba* Nierstrasz & Brender à Brandis, 1930.

This genus now contains two or three nominal species, depending on whether *Zeuxo alphei* Kossmann, 1872 is included.

Nierstrasz & Brender à Brandis (1930b) proposed the new genus *Faba*, with their two new species, and they compared *Faba* to *Danalia* Giard without assigning *Faba* to any of Bonnier's (1900) families. *Faba setosa* Nierstrasz & Brender à Brandis, 1930, the type species by original designation, and *F. glabra* Nierstrasz & Brender à Brandis, 1930 were each based on one female holotype. Both species were described and illustrated and are thus available (Code, Arts. 12a, 12b(7)).

The supposed rhizocephalan *Thompsonia luetzeni* Høeg & Bruce, 1988, based on two "externae" (the holotype and the paratype), is evidently really an isopod related to *Faba* (Høeg & Rybakov, 1992); *T. luetzeni* was diagnosed and is thus available (Code, Art. 13a(i)).

9. *Heptalobus* Nierstrasz & Brender à Brandis, 1930.

This genus now contains one nominal species.

Nierstrasz & Brender à Brandis (1930b) proposed another new genus, *Heptalobus*, with the type species by monotypy *H. paradoxus* Nierstrasz & Brender à Brandis, 1930b. It was based on two non-identical females (the holotype and the paratype) parasitizing two different species of the shrimp *Spirontocaris*, which is the same host genus as that of *Faba setosa* Nierstrasz & Brender à Brandis. *Heptalobus paradoxus* was described and illustrated and is thus available (Code, Arts. 12a, 12b(7)). Neither the original authors nor any others besides Danforth (1963, 1970; see below) have tried to place it systematically.

Family-Level History

Grygier & Bowman (1990) discussed in detail why the family name Liriopsidae Bonnier, 1900 cannot be applied to any family-level taxon which includes the genus *Cryptoniscus* Fraisse and why Cryptoniscidae Kossmann, 1880 is the valid name for such a taxon. Bonnier's (1900) concept of the family included *Liriopsis* Schultze in Müller (with *Cryptoniscus* Müller as a synonym), *Danalia* Giard, *Eumetor* Kossmann, and *Zeuxo* Kossmann. As noted above, *Cryptoniscus* was resurrected by Caullery (1908), and the genera *Enthylacus* Pérez and *Perezina* Nierstrasz & Brender à Brandis were added to the concept of the family by their respective authors. Caroli (1953) proposed on morphological grounds to transfer these last two genera to a related family, the Cabiropsidae Bonnier, 1900 (corrected spelling Cabiropidae; see Sassaman, 1992), but Nielsen & Strömberg (1965) retained *Enthylacus* and *Perezina* in the Liriopsidae.

Danforth (1970) treated the Cryptoniscidae *s.l.* as a family. His actions pertinent to the present topic included the synonymization of *Zeuxo* with *Danalia* in the subfamily Liriopsinae (*i.e.*, valid name Cryptoniscinae) and the proposal of a new subfamily, Fabinae, for *Faba* Nierstrasz & Brender à Brandis and *Heptalobus* Nierstrasz & Brender à Brandis. Danforth's (1963) dissertation (not seen) and Danforth (1970) are not published in the sense of the Code (Art. 8c) since they were only distributed as reproductions from microfilm; therefore, the taxonomic actions proposed therein have no formal standing in nomenclature, and Fabinae Danforth is not an available name.

Bocquet-Védrine (1974) expanded the concept of the family Liriopsidae Bonnier (*i.e.*, valid name Cryptoniscidae) by the inclusion of two subfamilies, Liriopsinae Bonnier, 1900 (*i.e.*, valid name Cryptoniscinae) and Crinoniscinae Bonnier, 1900 (not discussed here). She included within Liriopsinae only three genera that, in her opinion, had had their validity established, *Liriopsis*, *Cryptoniscus*, and *Danalia*.

Altes' (1982) revision of the Liriopsidae (*i.e.*, Cryptoniscidae *s.s.*) did not cite Bocquet-Védrine (1974) and did not discuss *Perezina* and *Heptalobus*. He split the family into two families: Liriopsidae for *Liriopsis* and *Enthylacus*, and Danaliidae Altes, 1982 for *Danalia*, *Cryptoniscus*, and, provisionally, *Faba*. Because *Cryptoniscus* was included, the nomenclaturally valid name for Danaliidae *sensu* Altes is Cryptoniscidae Kossmann (see Grygier & Bowman, 1990); however, Liriopsidae Bonnier, 1900 is indeed the available name which is valid for the other family.

Wägele (1987, 1989) proposed a radical reclassification of the Isopoda. In his system the two families recognized by Altes (1982) were demoted with their content unchanged to the level of the two tribes (Liriopsini and Danaliini) of the subfamily Liriopsinae within the family Bopyridae. Wägele (1987) mistakenly attributed Liriopsini to Altes (1981(*sic*)), but in Wägele (1989) he corrected the attribution, to Bonnier (1900). For the same reason mentioned in the preceding paragraph, the correct name of Danaliini *sensu* Wägele (1987, 1989) is Cryptoniscini.

Nomenclatural Recommendations

1) No type species has yet been designated for *Danalia* Giard, 1887, which had five originally included nominal species. Of these, *D. longicollis* (Kossmann, 1880), *D. larvaeformis* (Giard, 1874), *D. dohrnii* Giard, 1887, and *D. pellucida* Giard, 1887 have been recorded only once and are very poorly described at best; most are probably unrecognizable except by host. *Danalia curvata* (Fraisse, 1877; as *Cryptoniscus curvatus*) benefitted from the most complete original description of the five species and is the only one of them to have undergone substantial biological study afterwards (Smith, 1906; Caullery, 1908), so I designate it as the type species of *Danalia* by subsequent designation (Code, Art. 69a, Recommendation 69A).

2) *Danalia lobiancoi* Giard & Bonnier, 1890, is a *nomen nudum*. *Eumetor liriopides* Kossmann, 1872 and *D. gregaria* Caullery, 1908, like the four poorly known species originally included in *Danalia* (preceding paragraph), are technically available under the Code, but are so poorly described as to be essentially unrecognizable except by host. It may be possible to redescribe these species and to validate *D. lobiancoi* by collecting host crabs and rhizocephalans from the original localities; Wimpenny (1927) provides a host list. Such action will be essential before a meaningful revision of *Danalia* can be accomplished.

3) Zimmer (1927) and Neave (1940) failed to properly designate a replacement name for *Zeuxo* Kossmann, 1872 (*non* Templeton, 1840), and no type species has ever been designated. As an unreplaced junior homonym *Zeuxo* does not compete with other genera in priority (Code, Art. 23a), so authors such as Fraisse (1878b), Caullery (1908), and Altes (1982) have been free to transfer its two original species, *Z. porcellanae* and *Z. alphei*, to other genera. There has been general agreement that *Z. porcellanae* belongs to *Danalia* (Caullery, 1908; Wimpenny, 1927; Altes, 1982), but *Z. alphei* has been considered at least potentially generically distinct from *Z. porcellanae* (see Giard, 1887; Bonnier, 1900) and has even been assigned provisionally to *Faba* (see Altes, 1982). The possibility that *Z. alphei* represents a distinct genus

cannot yet be discounted. The *Faba*-like "*Thompsonia*" *luetzeni* Høeg & Bruce, 1988 may be related to this problem. Given this uncetainty about the generic-level assignment of *Z. alphei*, an available replacement name for *Zeuxo* Kossmann may still be necessary. I propose to so designate *Zeuxokoma nom. nov.*, and to designate *Zeuxo alphei* Kossmann, 1872 as the type species by the criterion of type fixation after elimination (Code, Recommendation 69B). Contrary to popular misconception, previous appearances of a name as a *nomen nudum* do not prevent it from being made available for the same (or even a different) concept at a later time (Code, Glossary: *nomen nudum*).

5) The family-level name Fabinae Danforth, 1970 (1963?) is unavailable because the work in which it was proposed was not published in the sense of the Code.

6) If *Liriopsis* Schultze in Müller and *Cryptoniscus* Fraisse are considered to belong to different family-level taxa, as by Altes (1982) and Wägele (1987, 1989), then the valid names for the two taxa are Liriopsidae Bonnier, 1900 and Cryptoniscidae Kossmann, 1880, respectively, no matter which other genera of the Cryptoniscidae *s.s.* are included in either taxon. Therefore, Danaliidae Altes, 1982, which includes *Cryptoniscus*, is a junior synonym of Cryptoniscidae.

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